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EXPORTING EXPERTISE AND EXTENDING ECONOMIC BOUNDARIES: EXTRAPOLATIONS FROM THE SINGAPORE EXPERIENCE IN BANGALORE, INDIA

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ABSTRACT

Singapore's regionalization program is centred on a number of industrial township developments in China, India and several Southeast Asian countries. These townships are led by Singapore government-linked companies, and are premised on the perception that Singapore's positive reputation with multinational corporations, for efficient industrial infrastructure and stable, corrupt-free administration, will give the townships a marketing advantage. Singapore's first transborder industrialization project in Batam (Indonesia) reflects this stratagem. This paper¹ follows from earlier papers on the limits of cloning Singapore's industrial development model beyond demarcated geographical boundaries. The strategy was refined in Singapore's foray into Bangalore, India. This paper concludes that, in contrast to the earlier 'failed' experiments in Vietnam and China, the project in India, the International Technology Park Limited (ITPL), has achieved some measure of success.

Key words: Regionalization - Industrial Parks - Singapore - India

INTRODUCTION

Singapore's regionalization strategy comprised state-led infrastructure projects, and a range of incentives and regulatory innovations designed to assist private companies and individuals to move overseas² [2]. The program involved the establishment of industrial townships to create a 'Singapore-styled' business environment for local and Singapore-based MNCs to expand regionally. The Singapore government, in this instance, takes the initiative to develop regional sites as locations to access resources and markets.

The paper takes up the discussion on Singapore's lesser-known industrial-township project in India. The discussion commences with further background to the regionalization program, followed by an account of the origins and progress of the case study park. This flagship project is then evaluated in terms of the progress in attracting investment, the contributions to the strategic objectives associated with the park, as well as to Singapore's broader regionalization initiative. The final part of the paper considers the implications of these experiences for Singapore's regionalization program, as well as the city-state's ability to export its efficiency in industrial park development and management outside its borders.

SINGAPORE'S REGIONALIZATION STORY

The mid-1960s saw the beginnings of the Singapore government's aggressive approach to woo foreign MNCs to fuel the city-state's economic development [16] [26]. By the early 1980s, rising business costs rendered it an imperative for Singapore to shift from labor-intensive activities towards higher value-added ones [12]. Singapore's economic planners sought to expand the island's investment horizons through an overseas direct investment program

launched in 1988. The main ideas were set out in the policy document, *Gearing Up for an Enhanced Role in the Global Economy*. The 1990 Global Strategies Conference added new dimensions to these deliberations. This initiative sought to accelerate access to new technology, or foreign markets, by supporting Singapore companies to form joint ventures with overseas companies in Europe and North America. Most of these investments proved unsuccessful, resulting in enormous losses by the early 1990s [21]. A new phase in the internationalization strategy re-focused on expansion within Asia. The change from internationalization (or, in local parlance, outer globalization) to regionalization (inner globalization) was rationalized by the liberalization of foreign investment controls occurring at the time in countries like Indonesia, China and Vietnam, and the high growth rates these economies were achieving [10] [15] [17] [27]. The strategic repositioning was discussed at the 1993 Regionalization Forum, and encapsulated in the policy document, *Singapore Unlimited*. This point was amplified by the Committee to Promote Enterprise Overseas [25]:

“... Other countries like South Korea, Taiwan and Hong Kong have invested overseas in Thailand, Malaysia, Indonesia, Vietnam and China in a big way in the last 4-5 years. These investments will give their GNP an added boost. Mature economies like those of the US, Japan, France and Switzerland have this external dimension which broadens their domestic operations and help upgrade their economy. For the same reasons, we must grow an external wing to our economy.”

Private sector reluctance³ in regionalizing was the Government’s *raison d’être* that Singapore’s government linked companies (GLCs) should lead the regionalization drive. The Government’s role in the township developments was three-pronged. First, senior politicians and civil servants negotiated⁴ the institutional framework for the project, which typically involved garnering special investment conditions in the host location. Second, Singapore government agencies and GLCs were the prime investors in the infrastructure and real estate development, usually via a ‘government-selected’ consortium. The prominence of government agencies and government-linked companies reflected the scale and long pay-back periods for infrastructure, which may make the investment unattractive to private companies alone. The third role played by the state was in the marketing and promotion of the parks.

INTERNATIONAL TECHNOLOGY PARK LIMITED (ITPL)

The industrial-township projects in Indonesia, China and Vietnam had a political objective to demonstrate the strength of the ‘Singapore development model’ and its transferability to other Asian environments. ITPL has narrower objectives, based on the perception that Singapore agencies have an advantage in infrastructural development in India. ITPL was instigated as a real estate development.

ITPL, located 18km away from Bangalore in India’s Silicon Valley, was launched in 1994, as a forerunner for a new generation of Singapore-developed industrial parks in India. The idea was mooted by Singapore’s Prime Minister Goh Chok Tong and India’s then Premier, P.V. Narasimha Rao, in 1992. Construction commenced in September 1994, and the park was officially inaugurated in 2000. The partners in the ITPL project are a Singapore consortium⁵ of companies led by Ascendas International, the Tata Group (India’s largest business conglomerate) and the Karnataka state government in a 40-40-20 arrangement. The Karnataka state government has since reduced its stake to 6 percent, while the Singapore consortium and the Tata Group have increased their respective stakes to 47 percent each.

ITPL was marketed as an environment that “cuts through the red tape and bottlenecks that are a part of India’s infrastructure and operating environment” (*The Straits Times*, August 8, 1999). ITPL was slated to provide total business space solutions to multinationals and other conglomerates, within a state-of-the-art technology park. The park’s development consists of 2 phases. Phase 1, which includes the Discoverer, Creator and Innovator blocks, with built-up office, production and retail space, adopts the Singapore-styled, integrated ‘work, live and play’ concept. Phase 2, comprising the Explorer building, a replica of the Innovator, and Built-To-Suit (BTS) facilities, is due for completion in early 2004. This phase will add a total area of 350,000 square feet to ITPL’s current built-up area of 1.6 million square feet. ITPL also houses the Indian Institute of Information Technology, which provides professional and skilled manpower for the park’s tenants. ITPL’s first development phase is fully committed. The

earliest clients included SAP Labs, First Ring and 24/7. The first 39 tenants started their operations in 1999, and created some 2000 jobs. To date, there are 100 confirmed tenants, of which 93 are operational with 8500 employees

More than half the tenants are wholly or partially foreign-owned firms, and more than 70 percent are in software development, integrated circuit design, research and development and precision technology. ITPL's tenants include global players like AT&T, IBM, Motorola, Sony, Texas Instruments, Citicorp and Thomas Cook. Operating profits have been registered, and ITPL is projected to break even within the next 4 years.

ITPL's competitive advantages as an investment location have been discussed. However, the update has relied primarily on secondary data from official publications, press reports, etc. This stock-take cannot adequately reflect the differential impact of various pull factors on the investment decision of different types of investors (e.g. local or foreign), or the differential impact of different types of constraints on the operations of firms with different characteristics (e.g. ownership type, market orientation, establishment size). To obtain firm-level data, on-site surveys and interviews were conducted in December 2002 and May 2003. The case studies are presented in this paper, while an accompanying paper [28] follows through with the quantitative aspects of this project. The next section presents case studies of three multinational companies in ITPL.

CASE STUDIES

To provide greater understanding of Singapore's regionalization strategy in ITPL, this section focuses on selected case studies of MNCs located in these parks. These case studies pave the way for a discussion on how Singapore has managed to develop ITPL as a centre for high value-added activities. Specifically, the interviews sought to glean empirical insights into how ITPL strives to establish a strategic fit between the value chain activities of the firms and the comparative advantages of a region.

Case A - Business Process Outsourcing

Company A is an American based firm undertaking e-services. It is known to provide the industry standard in customer support services and solutions to Global 500 companies. It was founded by an experienced management team with proven expertise in delivering large-scale, mission-critical customer support programs, with its corporate headquarters in Los Gatos, California, and operations at the ITPL, Bangalore.

ITPL, with its facilities best suited for small and medium enterprises engaged largely in R&D and in the service industry, has become a 'breeding ground' for companies involved in Business Process Outsourcing (BPO). Located at the 'Creator' building of ITPL, Company A is one of many such companies. Established in the park in April 2000, the company has over 800 employees, occupying 60,000 square feet.

Its key operations in the park include call centres, real-time customer service management and technical support to foreign firms. In fact, the facility in ITPL is the largest call centre in the state of Karnataka. Catering to customers as big as Alta Vista, the company has conducted successful programs such as outbound telemarketing, inbound phone customer service, inbound phone technical service, with service areas spanning countries worldwide, particularly the U.S. and Europe.

Involved in email and telephone-based customer services targeted at customers all round the world, the company, like all others concerned with BPO operations, requires a facility that will provide the necessary round-the-clock resources. ITPL successfully makes available the same. The regular power supply, the 24-hour speedy connectivity and the plug-and-play services of ITPL have proven to be the distinguishing factors in luring the company. An added advantage is seen in the fact that the city of Bangalore abounds with excellent schools and universities⁶. This coupled with the high standard of education, serves as a continuous source of skilled employment for the call centres located in the park. The company sees this pool of potential employees as an added advantage in carrying out its operations in ITPL.

Case B - Inter-Enterprise Software

Company B is a wholly owned subsidiary of an international software giant. Its German parent is recognized as the world leader in providing collaborative business solutions for all types of industries and major markets, and enjoys the position of being the world's largest inter-enterprise software company and the world's third largest independent software supplier overall. The parent company also employs 28,800 people in over 50 countries.

Company B was initially a German IT company, operating in the Koramangala district in the city of Bangalore. It was taken over by the above-mentioned parent company in 1998, a move that was accompanied by a shift into ITPL. With actual operations within ITPL beginning only in 1997, the company's establishment in 1998 made it one of the first occupiers. It also boasts of being the park's largest tenant, in terms of space occupancy, covering about 100,000 square feet.

The company initially had a choice of relocating itself at ITPL or at other city locations, which offered one-fourth the rent. However, the company chose ITPL, despite its higher rents, largely due to the following critical advantages that ITPL provided: uninterrupted power supply, state-of the-art infrastructure, ease and speed of setting up shop, and excellent communication channels.

The company, after having completed four years in the park, has decided to move out. The principal reason given for this is the rapid growth of the firm. In the four years since its inception it has grown from a little over 70 employees to 500 employees today. Space constraints within the park have forced the company to look at other locations. ITPL has been unable to cater to the growing and irregular needs of the company, being a park suited for small and medium enterprises. As a fast expanding company, the company no longer views ITPL's costly rents as one that can be justified. Instead, the company has moved into an expansive new campus, 15 acres in area, where it can enjoy economies of scale. Furthermore, the company views such a shift as an opportunity to establish its own identity, which it had not fully experienced in a multi-tenanted place like ITPL. However, given ITPL's 'distinct' advantages, the company has not fully relocated. Instead it continues to retain office space in the park's new BTS (Built-To-Suit) facilities.

Case C - Business Process Outsourcing

Company C is a wholly American owned firm, with its parent company being considered a frontrunner in integrating the expanding capabilities of information technology, telecommunications and the internet. The parent company has its headquarters in Virginia, U.S.A. Its services include voice-based services, internet services, back-office functions, and interactive teleservices.

Company C, located in ITPL, was incorporated in May 1999 as a 100% subsidiary. Its facility within the park spreads over 42,000 square feet and employs 12,000 employees. The company's functions within the park largely focus on Business Process Outsourcing, which include both inbound and outbound customer care.

As in the case of other companies in the same industry, Company C, too, cites the permanent power supply, 24-hour connectivity and supporting infrastructure as the vital factors that prompted it to situate in the park. The company also employs a sizeable portion of the IT graduates that Bangalore churns out every year.

In addition to the above, according to a company official, the firm perceives ITPL's excellent and professional support services and maintenance programs as a huge advantage that gives it an added edge over its peers that are located elsewhere. Such benefits have been the direct result of the Singaporean-styled management. However, the company has expressed reservation over the numerous other call centres making their way into ITPL to make use of the same advantages, which escalates into other problems such as heightened competition, further sharing of resources and the "pool of entry level people getting smaller".

DISCUSSION

The tenants at ITPL pose a stark contrast to those in the other Singapore-styled industrial parks in Indonesia, Vietnam and China, which have managed to attract a significant majority of their tenants on the basis of abundant low-cost, low-skilled labour. The scenario in ITPL is decidedly different. Our study suggests that the same

advantage of plentiful and cost-effective labour has not been the sole influencing factor in attracting firms to the park. The primary reason, which has encouraged firms to settle in the park, has been that of excellent infrastructural facilities and the Singapore-styled management characterized by its quintessential efficiency. Anecdotal evidence from our on-site interviews suggests that international IT firms, such as Companies A, B and C, have relocated to ITPL from other locations for this reason. This, along with the advanced technology made available at ITPL, has helped make the park the cynosure of all companies engaged chiefly in the non-manufacturing industries, that is, those placed in the higher end of the value chain.

Theories, from the perspective of the firm, have argued that not only should the production process be viewed as a value chain [9] [18], but also, firms should identify comparative or location-specific advantages unique to each country/territory [5], which will serve to complement the competitive advantage they enjoy as a result of being placed higher up in the value chain. Additionally, in the face of globalisation, the location-specific advantages need to be altered to suit the increasing spatial integration of complex and rapidly changing economic activities and to also consider the role of national and regional authorities in their influence over the extent and structure of localised centres of excellence [6]. Thus, a holistic approach must be adopted that takes into consideration firm-oriented competitive advantages as well as comparative advantages offered by regions. Synergistic efforts will occur when there exists a strategic fit between the competitive and comparative advantages.

ITPL represents a modified version of the Porter-Kogut analytical framework, whereupon the park has witnessed the location of firms engaged in marketing and sales, and other services (viz, the primary activities), which were supported by other activities such as technological development and infrastructure within the park (viz, the secondary activities), sufficiently provided by the Singapore partner. A case in point is the rapid establishment of companies in the BPO industry, and the myriad of e-services, including telemarketing and customer sales services, by simply making utmost use of the telecommunication facilities that the park showcased, as substantiated by our case studies. Indeed, technological development has constantly taken place within the park, to accommodate entry of new firms, and expansion of existing ones. ITPL's management and the governmental support it has garnered have proven to be the park's unique selling proposition. As well, ITPL is well-endowed with location-specific advantages: a blend of technology and infrastructure on one hand, and competitive skilled labour on the other, to support high value-added processes.

ISSUES AND CHALLENGES

Set against this scenario, while ITPL succeeds in providing the crucial links within the value chain that give client firms a competitive advantage, the problem arises on the flip side of the desired strategic fit – the host country's ability to provide comparative advantages. In this aspect, India has succeeded only in making available the advantages of 'factors of production'. While ITPL does provide some components of comparative advantage which the host country does not, this is not complemented by the infrastructure outside the park, where roads to supporting administration continue to be nearly non-existent. In fact, the excellent infrastructure within the park that the tenants extol is not the result of an Indian endeavour. Both economic and political advantages, which Singapore sought to make best use of, were initially present. The Indian and the Karnataka government aligned their objectives with those of its Singapore counterpart while establishing the park. However, as it happens with most government-run projects, the state government has not made further inroads into the project with its support; instead, much was left in the hands of the private sector and the Singapore consortium. The state government has reduced its stake in the project to a mere 6 per cent.

Heightened competition

With the sprouting of numerous similar parks in the same vicinity which are able to compete aggressively on cost, Singapore's overseas industrial parks are increasingly losing their allure. For ITPL, its success apparently hinges on the 'Singapore-styled design and management' reputation, and its capacity to provide stable electricity is the only differentiating factor from the other IT parks like the Software Tech Park and Electronics City. The premium placed on ITPL's formulaic 'one-stop' service and self-sufficient infrastructure is, however, called into question. The listed lease price is Rs50 (approximately US\$1) per square foot, whereas the rate in other areas, and within Electronic City itself, just outside ITPL, is less than Rs15. Our on-site interviews with IPTL tenants alluded to the possibility that

the park's attractiveness may, in time, be eroded, as more IT parks and companies are established within the vicinity to capitalize on the area's repute, while offering lower rentals with reliable energy, as the state develops.

Political 'Patronage'

Reliance on political patronage (and personal ties) rather than transparent contracts has had advantages and disadvantages. In India, varying degrees of commitment and support by different state governments towards the country's development can affect ITPL's competitive advantage. The lack of good supporting infrastructure in the surrounding environment, and the disparity in local state-government supporting different cities, serve as a deterrent to investors, even as cities like Hyderabad, Mumbai and Chennai continue to advance technologically. On a broader front, corruption remains endemic, and bureaucratic red-tapism is difficult to circumvent. These considerations are, by themselves, deterrents to potential investors, even with Singapore's presence and involvement.

CONCLUSION

The practical significance here is that Singapore's overseas parks tend to exist as investment enclaves within a disjointed economic and policy environment. They are linked to transnational investment networks, business elites and specific government commitments. The positive aspect of this is that the parks can be sites of investment privilege, in respect of their regulatory controls, infrastructure quality and status with public and private agencies. The weakness is that the privileges obtained are vulnerable to changes in political allegiance and the infrastructure efficiency is at risk from the uncontrolled broader environment in which the park is located. This study has shown that the initial optimism with which the regionalization initiative was unveiled has *not* been justified, that development assumptions have proven to be misplaced, and that Singapore's 'vision' - to create an environment for enterprise - has not been fully realized. The power of ideas, without cognizance of socio-political realities, has its limits.

FOOTNOTES

¹This paper and three accompanying studies are funded by the Wharton-SMU Research Centre, Singapore Management University.

²A summary of the regionalization incentive schemes may be gleaned from the *Singapore Investment News, Regionalization Supplement*, May 1993 [24].

³ For a scholarly discussion on the political economy of Singapore's development strategy, see [2] [8] [13] [20] [22]. There is also an extensive political-economy literature on Singapore's regionalization program, succinctly summarized in [30]. The principles of government involvement are rationalized in the 1993 Report of the Committee to Promote Enterprise Overseas.

⁴The stress on exploiting personal ties accords with business practice preferred by the linked communities of 'overseas Chinese' [3] [11] [19], the 'bamboo network' which Singapore made use of in its industrial parks in Indonesia [7] [23] and China [4] [29]. Personal ties between Chairman, SEDB, and Ratan Tata (of the Tata Group) reportedly facilitated the move into India [1].

⁵ The Singapore consortium, Information Technology Park Investments Pte Ltd, includes RSP Architects, Planners and Engineers, L&M Properties, Sembawang Industrial, Technology Parks (a Jurong Town Corporation subsidiary) and Parameswara Holdings (the investment arm of the Singapore Indian Chamber of Commerce).

⁶ Indian universities reportedly graduate about 20,000 to 30,000 software engineers every year, and Bangalore has been a 'hunting ground' for Singapore companies and Singapore-based multinationals seeking low-cost IT specialists.

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